

CURRICULUM VITAE

name: **Giuseppe Bardi**

Istituto Italiano di Tecnologia,
Genova, Italy

- Education

PhD in Molecular and Cellular Immunology Theodor Kocher Institute, University of Bern, Switzerland *Thesis: New aspects in chemokine receptor internalization and blockade* (Supervisor: Prof Marco Baggiolini).

BSc & MSc in Biological Sciences (summa cum laude) University of Bologna, Italy
Thesis in molecular neurobiology: Effects of cultural conditions and lithium exposure on survival, apoptosis and ornithine decarboxylase activity in cerebellar granule neurons (language Italian, supervisor Prof Antonio Contestabile).

Accredited training (UK): In vivo animal work

- **Languages:** Italian (native), English (Fluent/Professional), Spanish (Fluent)

- Scientific research career

01.02.2011- present	Researcher and Member of the OPBA Istituto Italiano di Tecnologia (Italy)
2008-2009	Contract Professor at Chemical and Pharmaceutical Technologies. Faculty of Pharmacy, University of Pisa, Italy
01.11.2006-31.12.2010	Research Associate , Neuroscience Institute, CNR (Pisa, Italy)
01.01.2005-31.05.2006	Research Associate , Dep. of Pharmacology and Physiology, Drexel University (Philadelphia, PA, USA)
01.01.2004-31.12.2004	Postdoc Research Fellow , FELS Institute for Cancer Research and Molecular Biology, Temple University School of Medicine (Philadelphia, PA, USA)
01.11.2001-28.02.2003	Postdoc Research Fellow , Molecular Immunology Programme, Lymphocyte Signalling and Development Laboratory, The Babraham Institute (Cambridge, UK)

- **Member of the Editorial Board** of “**Exploration of Immunology**” (OEP) and Topic Editor for “**Nanomaterials**” (MDPI), “**Vaccines**” (MDPI) and the journal **Nanobiomedicine** (SAGE publisher)

- **Reviewer** for the **Polish “National Science Centre”** founding agency (Narodowe Centrum Nauki – NCN, Poland); **LEaDing Fellows Postdocs Programme** (Netherlands)

- **Reviewer** for several journals, including:

Experimental Neurology - Vaccines – Nanomaterials – Journal of Controlled Release - Nanotoxicology - Biomaterials - Molecular Pharmaceutics - Nanomedicine – Journal of Nanobiotechnology - Toxicological Sciences – Nanoscale – Nanoscale Research Letters – Integrative Biology – Chemical Society Reviews – RCS Advances – Cell biology and Toxicology – Chemical Communications – Molecules - British Journal of Pharmaceutical Research...

- **Member** of Society for Neuroscience (**SFN**)

- **University courses as Contract Professor:** 2008/09 Course: Recombinant DNA technologies 8h courses at Faculty of Pharmacy, University of Pisa, Italy

- **Supervisor/Tutor** of the several MSc and PhD thesis

Peer reviewed Scientific Articles and Invited Reviews

(* Corresponding author, ^ equal contribution) Scopus, H index 27, >2750 citations at 04.11.2021

Constantin C, Pisani A, Bardi G, Neagu M. *Nano-carriers of Covid-19 vaccines – main pillars of efficacy*. *Nanomedicine*. 2021, in press

Bardi G*. *Immune Responses to Nanomaterials for Biomedical Applications*. *Nanomaterials* 2021, 11, 1241. <https://doi.org/10.3390/nano11051241>

Pisani A, **Bardi G***. *Immunology of biodegradable nanoparticles: a brief overview on a wide growing field*. *Explor Immunol*. 2021;1:48-60 | <https://doi.org/10.37349/ei.2021.00006>

Neagu M, Constantin C, **Bardi G**, Duraes L. *Adverse outcome pathway in immunotoxicity of perfluoroalkyls*. *Current Opinion in Toxicology*, 2021 25: 23-29.

Pisani A, Donno R, Gennari A, Cibecchini G, Catalano F, Marotta R, Pompa PP, Tirelli N, **Bardi G***. *CXCL12-PLGA/Pluronic Nanoparticle Internalization Abrogates CXCR4-Mediated Cell Migration*. *Nanomaterials (Basel)*. 2020 Nov 20;10(11):2304.

Pisani A, Pompa PP, **Bardi G***. *Potential Applications of Nanomaterials to Quench the Cytokine Storm in Coronavirus Disease 19*. *Front Bioeng Biotechnol*. 2020 Aug 19;8:906.

Bardi G*. *Nanometric Virus-Like Particles: Key Tools for Vaccine and Adjuvant Technology*. *Vaccines* 2020 Jul 31;8(3):E430.

Cagliani R, Gatto F, Cibecchini G, Marotta R, Catalano F, Sanchez-Moreno P, Pompa PP, **Bardi G***. *CXCL5 Modified Nanoparticle Surface Improves CXCR2⁺ Cell Selective Internalization*. *Cells*. 2019, vol. 2, (no. 9)

Torres FG, Troncoso OP, Pisani A, Gatto F, **Bardi G***. *Natural polysaccharide nanomaterials: An overview of their immunological properties*. *International Journal of Molecular Sciences*. 2019, vol. 20, (no. 20)

Cagliani R, Gatto F, **Bardi G***. *Protein adsorption: A feasible method for nanoparticle functionalization?* *Materials*. 2019 vol. 12, (no. 12)

Magri D, Sanchez-Moreno P, Caputo G, Gatto F, Veronesi M, **Bardi G**, Catelani T, Guarnieri D, Athanassiou A, Pompa P.P, Fragouli D. *Laser ablation as a versatile tool to mimic polyethylene terephthalate nanoplastic pollutants: Characterization and toxicology assessment*. *ACS Nano*. 2018, vol. 12, (no. 8), pp. 7690-7700

Gatto F, **Bardi G***. *Metallic nanoparticles: General research approaches to immunological characterization*. *Nanomaterials*. 2018, vol. 8, (no. 10).

Guarnieri D, Sánchez-Moreno P, Del Rio Castillo AE, Bonaccorso F, Gatto F, **Bardi G**, Martín C, Vázquez E, Catelani T, Sabella S, Pompa PP. *Biotransformation and Biological Interaction of Graphene and Graphene Oxide during Simulated Oral Ingestion*. *Small*. 2018 Small, vol. 14, (no. 24).

- Rodríguez S, Gatto F, Pesce L, Canale C, Pompa PP, **Bardi G**, Lopez D, Torres FG. *Monitoring cell substrate interactions in exopolysaccharide-based films reinforced with chitin whiskers and starch nanoparticles used as cell substrates*. *Int J Pol Mat*. 2018, 67:6, 333-339.
- Gatto F, Cagliani R, Catelani T, Guarnieri D, Moglianetti M, Pompa PP, **Bardi G***. *PMA-induced THP-1 Macrophage differentiation is not impaired by citrate-coated Platinum nanoparticles*. *Nanomaterials (Basel)*. 2017 Oct 17;7(10).
- Pedone D, Moglianetti M, De Luca E, **Bardi G**, Pompa PP. *Platinum nanoparticles in nanobiomedicine*. *Chem Soc Rev*. 2017, Aug 14;46(16):4951-4975.
- Gatto F, Troncoso OP, Brunetti V, Malvindi MA, Pompa PP, Torres FG, **Bardi G***. *Human monocyte response to Andean-native starch nanoparticles*. *Starch-Stärke*. 2016, 68, 1016–1023.
- Corvaglia S, Rodriguez S, Bardi G, Torres FG, Lopez, D. *Chitin whiskers reinforced carrageenan films as low adhesion cell substrates*. *Int J Polym Mater*. 2016, 65 (11): 570-580
- Gagliardi M, Bertero A, **Bardi G**, Bifone A. *A poly(ether-ester) copolymer for the preparation of nanocarriers with improved degradation and drug delivery kinetics*. *Mater Sci Eng C Mater Biol Appl*. 2016, Feb 1;59:488-499.
- Boni A, **Bardi G**, Bertero A, Cappello V, Emdin M, Flori A, Gemmi M, Innocenti C, Menichetti L, Sangregorio C, et al. *Design and optimization of lipid-modified poly(amidoamine) dendrimer coated iron oxide nanoparticles as probes for biomedical applications*. *Nanoscale*. 2015 Apr 28;7(16):7307-17.
- Torres FG, Troncoso OP, Gamucci O, Corvaglia S, Brunetti V, **Bardi G***. *Immunological properties of Andean starch films are independent of their nanometric roughness and stiffness*. *Int J Biol Macromol*. 2015 Apr;75:460-6.
- Gamucci O, **Bardi G**. *Cerium dioxide nanoparticles selectively up-regulate C-C chemokine receptor 2 and CD16 expression on human monocytes*. *Euro Nanotox Letters*. 2014 (5) 1, 0001-0016.
- De Matteis V, Malvindi MA, Galeone A, Brunetti V, De Luca E, Kote S, Kshirsagar P, Sabella S, **Bardi G**, Pompa PP. *Negligible particle-specific toxicity mechanism of silver nanoparticles: The role of Ag⁺ ion release in the cytosol*. *Nanomedicine*. 2014, 11, (3) 731–739
- Bednar F, Song C, **Bardi G**, Cornwell W, Rogers TJ. *Cross-Desensitization of CCR1, but Not CCR2, following Activation of the Formyl Peptide Receptor FPR1*. *J Immunol*. 2014 Jun 1;192(11):5305-13.
- Gamucci O, Bertero A, Malvindi M, Sabella S, Pompa PP, Mazzolai B, **Bardi G***. *Detection of fluorescent nanoparticle interactions with primary immune cell subpopulations by flow cytometry*. *J Vis Exp*. 2014 Mar 28;(85).
- Gamucci O, Bertero A, Gagliardi M, **Bardi G***. *Biomedical nanoparticle surfaces: insights into immune-compatibility*. *Coatings* 2014, 4(1), 139-159
- Bertero A, Boni A, Gemmi M, Gagliardi M, Bifone A, **Bardi G***. *Surface functionalisation regulates polyamidoamine dendrimer toxicity on blood-brain barrier cells and the modulation of key inflammatory receptors on microglia*. *Nanotoxicology*. 2014 Mar;8:158-68.
- Gherardini L, **Bardi G**, Gennaro M, Pizzorusso T. *Novel siRNA delivery strategy: A new "strand" in CNS translational medicine?* *Cell Mol Life Sci*. 2014 Jan;71(1):1-20.
- Caracciolo G, Cardarelli F, Pozzi D, Salomone F, Maccari G, **Bardi G**, Capriotti AL, Cavaliere C, Papi M, Laganà A. *Selective targeting capability acquired with a protein corona adsorbed on the surface of DOTAP/DNA nanoparticles*. *ACS Appl Mater Interfaces*. 2013 Dec 26;5(24):13171-9.
- Bardi G**, Nunes A, Gherardini L, Bates K, Al-Jamal KT, Gaillard C, Prato M, Bianco A, Pizzorusso T, Kostarelos K. *Functionalized Carbon Nanotubes in the Brain: Cellular Internalization and Neuroinflammatory Responses*. *PLoS One*. 2013 Nov 18;8(11):e80964.

Albertazzi L, Gherardini L, Brondi M, Sulis Sato S, Bifone A, Pizzorusso T, Ratto GM, **Bardi G***. *In vivo distribution and toxicity of PAMAM dendrimers in the Central Nervous System depend on their surface chemistry*. Mol Pharm. 2013 Jan 7;10(1):249-60.

Albertazzi L, Mickler FM, Pavan GM, Salomone F, **Bardi G**, Panniello M, Amir E, Kang T, Killops KL, Bräuchle C, Amir RJ, Hawker CJ. *Enhanced bioactivity of internally functionalized cationic dendrimers with PEG cores*. Biomacromolecules. 2012 Dec 10;13(12):4089-97.

Salomone F, Cardarelli F, Di Luca M, Boccardi C, Nifosi R, **Bardi G**, Di Bari L, Serresi M, Beltram F. *A novel chimeric cell-penetrating peptide with membrane-disruptive properties for efficient endosomal escape*. J Control Release. 2012 Nov 10;163(3):293-303.

Gagliardi M, **Bardi G**, Bifone A. *Polymeric nanocarriers for controlled and enhanced delivery of therapeutic agents to the CNS*. Ther Deliv. 2012 Jul;3(7):875-87.

Raffa V, Vittorio O, Costa M, Ziaei A, Nitodas S, Riggio C, Al-Jamal K, Gherardini L, **Bardi G**, Pizzorusso T, Karachalios T, Cuschieri A. *Multiwalled carbon nanotube antennas induce effective plasmid DNA transfection of bacterial cells*. Journal of Nanoneuroscience. 2012 (Apr) 2: 1. 56-62

Bardi G*. *SiO₂ NPs: Promising Candidates for Drug and Gene Delivery*. Drug Delivery Letters. 2011 1, 9-12

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Raffa V, Gherardini L, Vittorio O, **Bardi G**, Ziaei A, Pizzorusso T, Riggio C, Nitodas S, Karachalios T, Al-Jamal KT, Kostarelos K, Costa M, Cuschieri A. *Carbon nanotube-mediated wireless cell permeabilization: drug and gene uptake*. Nanomedicine (Lond). 2011 Dec;6(10):1709-18.

Al-Jamal KT[^], Gherardini L[^], **Bardi G[^]**, Nunes A, Guo C, Bussy C, Herrero MA, Bianco A, Prato M, Kostarelos K, Pizzorusso T. *Functional motor recovery from brain ischemic insult by carbon nanotube-mediated siRNA silencing*. Proc Natl Acad Sci U S A. 2011 Jul 5; 108 (27) :10952-7.

Song C, Rahim RT, Davey PC, Bednar F, **Bardi G**, Zhang L, Zhang N, Oppenheim JJ, Rogers TJ. *Protein kinase C ζ mediates micro-opioid receptor-induced cross-desensitization of chemokine receptor CCR5*. J Biol Chem. 2011 Jun 10; 286 (23) :20354-65.

Bardi G*, Malvindi MA, Gherardini L, Costa M, Pompa PP, Cingolani R, Pizzorusso T. *The biocompatibility of amino functionalized CdSe/ZnS quantum-dot-Doped SiO₂ nanoparticles with primary neural cells and their gene carrying performance*. Biomaterials. 2010 Sep; 31 (25) :6555-66.

Maffei M, Funicello M, Vottari T, Gamucci O, Costa M, Lisi S, Viegi A, Ciampi O, **Bardi G***, Vitti P, Pinchera A, Santini F. *The obesity and inflammatory marker haptoglobin attracts monocytes via interaction with chemokine (C-C motif) receptor 2 (CCR2)*. BMC Biol. 2009 Dec 17; 7:87.

Bardi G*, Vittorio O, Maffei M, Pizzorusso T, Costa M. *Adipocytes differentiation in the presence of Pluronic F127-coated carbon nanotubes*. Nanomedicine. 2009 Dec; 5 (4) :378-81.

Bardi G*, Tognini P, Ciofani G, Raffa V, Costa M, Pizzorusso T. *Pluronic-coated carbon nanotubes do not induce degeneration of cortical neurons in vivo and in vitro*. Nanomedicine. 2009 Mar; 5 (1) :96-104.

Finley MJ, Chen X, **Bardi G**, Davey P, Geller EB, Zhang L, Adler MW, Rogers TJ. *Bi-directional heterologous desensitization between the major HIV-1 co-receptor CXCR4 and the kappa-opioid receptor*. J Neuroimmunol. 2008 Jul 15; 197 (2) :114-23.

Patel JP, Sengupta R, **Bardi G**, Khan MZ, Mullen-Przeworski A, Meucci O. *Modulation of neuronal CXCR4 by the micro-opioid agonist DAMGO*. J Neurovirol. 2006 Dec; 12 (6) :492-500.

Bardi G, Sengupta R, Khan MZ, Patel JP, Meucci O. *Human immunodeficiency virus gp120-induced apoptosis of human neuroblastoma cells in the absence of CXCR4 internalization*. J Neurovirol. 2006 Jun; 12 (3) :211-8.

Vigorito E, **Bardi G**, Glassford J, Lam EW, Clayton E, Turner M. *Vav-dependent and vav-independent phosphatidylinositol 3-kinase activation in murine B cells determined by the nature of the stimulus*. J Immunol. 2004 Sep 1; 173 (5) :3209-14.

Bardi G, Niggli V, Loetscher P. *Rho kinase is required for CCR7-mediated polarization and chemotaxis of T lymphocytes*. FEBS Lett. 2003 May 8; 542 (1-3) :79-83.

Clayton E, **Bardi G**, Bell SE, Chantry D, Downes CP, Gray A, Humphries LA, Rawlings D, Reynolds H, Vigorito E, Turner M. *A crucial role for the p110delta subunit of phosphatidylinositol 3-kinase in B cell development and activation*. J Exp Med. 2002 Sep 16; 196 (6) :753-63.

Bardi G, Lipp M, Baggiolini M, Loetscher P. *The T cell chemokine receptor CCR7 is internalized on stimulation with ELC, but not with SLC*. Eur J Immunol. 2001 Nov; 31 (11) :3291-7.

Ogilvie P, **Bardi G**, Clark-Lewis I, Baggiolini M, Uguccioni M. *Eotaxin is a natural antagonist for CCR2 and an agonist for CCR5*. Blood. 2001 Apr 1; 97 (7) :1920-4.

Loetscher P, Pellegrino A, Gong JH, Mattioli I, Loetscher M, Bardi G, Baggiolini M, Clark-Lewis I. *The ligands of CXC chemokine receptor 3, I-TAC, Mig, and IP10, are natural antagonists for CCR3*. J Biol Chem. 2001 Feb 2; 276 (5) :2986-91.

Sparapani M, Virgili M, **Bardi G**, Tregnago M, Monti B, Bentivogli M, Contestabile A. *Ornithine decarboxylase activity during development of cerebellar granule neurons*. J Neurochem. 1998 Nov; 71 (5) :1898-904.

Book chapters:

2013 Gagliardi MC, **Bardi G**, Gamucci O, Mazzolai B. *Targeted drug delivery across biological barriers using polymer nanoparticles*. In: Therapeutic Delivery Methods: A Concise Overview of Emerging Areas Unitech House, 2 Albert Place, London N3 1QB, UK (Future Science Ltd) 2013 Pages 96-109 eBook ISBN: 978-1-909453-49-4

2012 **Bardi G***. *Safety of carbon nanotubes for neuronal tissue*. In: Nanomedicine and the nervous system - Nanoscience Applied to Health and Medicine. p. 3-16, Boca Raton: CRC Press, Taylor & Francis Group, ISBN: 978-1-57808-728-0

2012 Ceccatelli S, **Bardi G*** (2012). *Neurological System*. In: Adverse Effects of Engineered Nanomaterials. p. 157-168, ACADEMIC PRESS INC ELSEVIER SCIENCE, ISBN: 9780123869401

2010 Ciofani G, Raffa V, Vittorio O, Cuschieri A, Pizzorusso T, Costa M, **Bardi G**. *In vitro and in vivo biocompatibility testing of functionalized carbon nanotubes*. Methods Mol Biol. 2010; 625:67-83.

2009 **Bardi G**, Gerardini L. (translation of Chapter 2) *Biological Psychology, An introduction to Behavioral, Cognitive and Clinical Neuroscience* (Breedlove SM, Rosenzweig MR, Watson NV)

Autorizzo il trattamento dei miei dati personali presenti nel cv ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali" e dell'art. 13 del GDPR (Regolamento UE 2016/679).

In fede

Giuseppe Bardi